

ABSTRACT

A method of fluxing and fluidizing the slag formed in electric melting furnaces by adding a fluxing material including by weight from 8.0 to 28.7% CaCO_3 (calcium carbonate or limestone), from 0 to 18.5% MgCO_3 (magnesium carbonate), from 3.6 to 18.0% Al_2O_3 (alumina) from 1.4 to 7.1% SiO_2 (silica), in the form of a complex aluminosilicate, and from 19.4 to 46.4% Na_2O (sodium oxide), in the form of soda ash (sodium carbonate). For coreless induction, vertical channel and pressure pour furnaces, with either basic or neutral linings, the flux will be used in amounts ranging from about 0.01 to 0.75% by weight, based upon the metal charge. The flux serves to improve and reduce the fluidity and viscosity of the slag, reduce the melting temperature, remove and coalesce emulsified slag particles, soften build-up on furnace sidewalls and inductor throats, without emitting gases harmful to the atmosphere.